

# TOXIC SHOCK SYNDROME

## REPORTING INFORMATION

- Class A(3)
- Report by the close of the work week
- Report by [Confidential Case Report Card](#) (3812.11 rev 12/81) or telephone
- Requires completion of CDC [Toxic Shock Syndrome Case Report](#) (CDC 52.3 rev. 3-85); to be sent by the local health department to Infectious Disease Investigation, ODH, 246 N. High Street, PO Box 118, Columbus, OH 43266-0118.

## AGENT

Toxin-producing *Staphylococcus aureus*. In most cases, toxic shock syndrome toxin-1 (TSST-1), an enterotoxin, has been identified.

## CASE DEFINITION

### Clinical case definition

An illness with the following clinical manifestations:

1. Fever: temperature  $\geq 38.9^{\circ}\text{C}$  ( $\geq 102.0^{\circ}\text{F}$ )
2. Rash: diffuse macular erythroderma
3. Desquamation: 1-2 weeks after onset of illness, particularly on the palms and soles
4. Hypotension: systolic blood pressure  $\leq 90\text{mm Hg}$  in adults or less than fifth percentile by age for children aged  $<16$  years; orthostatic drop in diastolic blood pressure  $\geq 15\text{mm Hg}$  from lying to sitting, orthostatic syncope, or orthostatic dizziness
5. Multisystem involvement (3 or more of the following):
  - Gastrointestinal: vomiting or diarrhea at onset of illness
  - Muscular: severe myalgia or creatine phosphokinase level at least twice the upper limit of normal
  - Mucous membrane: vaginal, oropharyngeal, or conjunctival hyperemia
  - Renal: blood urea nitrogen or creatinine at least twice the upper limit of normal for laboratory or urinary sediment with pyuria ( $\geq 5$  leukocytes per high-power field) in the absence of urinary tract infection
  - Hepatic: total bilirubin, alanine aminotransferase enzyme [ALT], or aspartate aminotransferase enzyme [AST] levels at least twice the upper limit of normal for laboratory
  - Hematologic: platelets  $<100,000/\text{mm}^3$
  - Central nervous system: disorientation or alterations in consciousness without focal neurologic signs when fever and hypotension are absent

### Laboratory criteria

Negative results on the following tests, if obtained:

- Blood, throat, or cerebrospinal fluid cultures (blood culture may be positive for *Staphylococcus aureus*)
- Rise in titer to Rocky Mountain spotted fever, leptospirosis, or measles

### Case Classification

Probable: a case in which five of the six clinical findings described above are present

Confirmed: a case in which all six of the clinical findings described above are present, including desquamation, unless the patient dies before desquamation occurs

### Comment

See also Streptococcal Toxic-Shock Syndrome.

## SIGNS AND SYMPTOMS

See case definition above.

## **DIAGNOSIS**

There is no definitive diagnostic test. Diagnosis is based on clinical presentation (see case definition).

## **EPIDEMIOLOGY**

### **Source**

Epidemiologic studies have shown that colonization with TSST-1 producing strains of *S. aureus* is common. Most people, however, do not develop TSS.

### **Occurrence**

Sporadic individual cases occur with no seasonal distribution. TSS is non-communicable. While cases most frequently occur in young menstruating women and are associated with the use of high absorbency tampons, cases have been reported in men, children, and older women. In these latter cases, focal infection, as of skin or wounds, with *S. aureus* has been common, even though the infected site might appear grossly normal. Non-menstrual TSS has also been associated with use of diaphragms and contraceptive sponges, vaginal infections, childbirth, abortion, and the postpartum state.

## **PUBLIC HEALTH MANAGEMENT**

### **Case**

#### Treatment

The focus of infection should be eradicated while supportive therapy is provided.

### **Contacts**

No follow-up is needed for contacts.

### **Prevention and Control**

Minimal use of high-absorbency tampons and patient education can prevent menstrual-related TSS. Treatment of first episodes of TSS with parenteral antibiotics and subsequent avoidance of tampons can prevent recurrences.